



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/565,846

01/26/2006

Dan Raphaeli

3415/15

8085

44696

7590

09/27/2010

DR. MARK M. FRIEDMAN

C/O BILL POLKINGHORN - DISCOVERY DISPATCH

9003 FLORIN WAY

UPPER MARLBORO, MD 20772

EXAMINER

HOLLOWAY III, EDWIN C

ART UNIT

PAPER NUMBER

2612

NOTIFICATION DATE

DELIVERY MODE

09/27/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mark\_f@friedpat.com

nomi\_m@friedpat.com

friedpat.uspto@gmail.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,846	<b>Applicant(s)</b> RAPHAELI, DAN	
	<b>Examiner</b> Edwin C. Holloway, III	<b>Art Unit</b> 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***EXAMINER'S RESPONSE***

1. The amendment filed 06 July 2010 has been entered. Claims 1-22 are pending. The examiner has considered the new presentation of claims and applicant's argument in view of the disclosure and the present state of the prior art. And it is the examiner's position that the claims are unpatentable for the reasons set forth in this Office action:\

***Terminal Disclaimer***

2. The terminal disclaimer filed on 06 July 2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 7,511,604 has been reviewed and is NOT accepted.

3. The language 35 USC 154 to 156 and 173 is unclear as to 155 and 156 do not define the term of the patent, it should read 35 USC 154 and 173.

4. The person who signed the terminal disclaimer is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

5. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the

manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Creek (US 5771002) in view of Anders (US 4656463) or Chen (US 6300905) and further in view of Gelvin (US 6832251).

Creek discloses a locator method and system including a handheld master unit that identifies and interrogates a satellite unit RF tag with a command from a directional antenna. The satellite unit sends a response signal synchronized to the command. Amplitude (signal strength) is measured and indicated. The master unit includes audible and visual indication satellite unit location. See abstract, col. 7 lines 30-41, col.13 lines 50-67.

Anders discloses an analogous art RF tag locating method and system including a handheld interrogator with audible, visual and vibratory location indication. The interrogator antenna may be a phased array with azimuth and bearing movement. The location and indication includes range (distance) by time interval (round trip delay) and azimuth/bearing measured by the phased array using known radar ranging. See fig. 29, col. 24 Line 52 - col. 25 line 2, col. 37 lines 6 - 37, col. 38 line 16 - col. 39 line 22.

Amplitude is also measured (col. 6 lines 25-30) to determine the strongest signal.

Chen discloses an analogous art locating system measuring round trip delay to determine distance and amplitude measurements from a multi sector antenna to determine angle of arrival. See the abstract and col. 6 lines 31-51.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Creek the measuring and indication of round trip delay in addition to amplitude in view of Anders disclosing reception interval measuring to allow use of radar ranging or Chen disclosing measuring round trip delay and amplitude to easily determine location or position using measurements from only a single station. It further would have been obvious to have included the phased array and azimuth indication of Anders or Chen in order to allow direction indication without the need of the user to manually turn in a circle to fine the direction of maximum signal.

In an analogous art, Gelvin teaches dealing with a multipath effect. The reader overcomes the multipath effect by using the first multipath arrival of a response as the range estimate for determining position (col. 42 lines 18-34). Angle of arrival is discussed in col. 19 line 60 - col. 20 line 6, corresponding to direction determination using amplitude. The combination applied above uses the response signals to determine distance and direction using the response signal.

Regarding claims 17-22, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used amplitude of the first multipath component of the received response signals in view of Gelvin for precisely determining the position of

the tags in the combination applied above.

9. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Creek (US 5771002) in combination with Anders (US 4656463) or Chen (US 6300905) further in view of Gelvin (US 6832251) as discussed above and further in view of Wang (US 5912644) or MacLellan (US 5940006).

Wang and MacLellan disclose analogous art RF tag interrogation/location systems/methods including wideband (CDMA / spread spectrum) communication. See the abstract.

Regarding claims 1-16, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the wideband communication, of Wang or MacLellan for known advantages such as reduced interference. Further regarding claim 5, the first multipath component is a predetermined component. Further regarding claims 11 and 12, measuring delay of the first multipath effect would have been obvious in view of Gelvin for overcoming a Multipath effect.

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d

2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-124 of U.S. Patent No. US 7511604 in view of Chen (US 6300905).

The claims of the '604 patent include the limitation of claims 1-22 of the instant application, such as measuring round trip delay, but measuring amplitude is not expressly claimed.

Chen discloses an analogous art locating system measuring round trip delay to determine distance and measuring amplitude from a multi sector antenna to determine angle of arrival. See the abstract and col. 6 lines 31-51.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the invention claimed in the '604 patent the measuring round trip delay and amplitude in Chen to easily determine location or position using measurements from only a single station.

### ***Response to Arguments***

12. Applicant's arguments filed 06 July 2010 have been fully considered but they are not persuasive and/or are moot in view of the new ground(s) of rejection.

The argument regarding the double patenting rejection is not persuasive because the Terminal Disclaimer is disapproved.

The argument that first arrival in Gelvin is limited to acoustic signals is not persuasive because the passage of Gelvin refers to acoustic signal at short distances, but would obviously apply to RF signals at longer distances. Gelvin is not limited to acoustic signals, as acoustic, IR and RF are used in col. 43 lines 35-62. Further, applicant's claims are not limited to RF response signals.

Applicant argues that Gelvin clearly teaches that for other signals another means for resolving the multipath are used, such as s RAKE receiver. This argument is not persuasive because the RAKE receiver includes multiple fingers corresponding to the multiple paths that would comprise the first path.

Applicant argues that Gelvin lacks any hint of amplitude measurement of first multipath RF component to determine direction. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, Gelvin discloses angle of arrival determination in col. 19 line 60 - col. 20 line 6 corresponding to amplitude measurement in Anders or Chen and Gelvin includes RF in addition to acoustic measurements as



discussed above.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***CONTACT INFORMATION***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C. Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman, can be reached on (571) 272-3059.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

Art Unit: 2612

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9/22/2010  
(571) 272-3058

/Edwin C. Holloway, III/  
Primary Examiner, Art Unit 2612